

Taxus brevifolia
(TAXACEAE)

NOMENCLATURE:

Accepted Name: Taxus brevifolia Nutt.

Approved by: GMC

References:

DESCRIPTION: Tree, sometimes shrub-like, with an erect straight to asymmetrical to contorted bole; usually from 20 to 40 ft. tall, but one tree near Portland is reported to be 75 ft. tall; diameter usually from 1/2 to 2 ft., but reported up to 4 ft.; trunks are conspicuously ridged and fluted by an apparent unfolding of the surface; crown open and broad with long slender branches that are horizontal except for the ends and branchlets that sometimes droop and extend to the ground. Bark very thin, about 1/4 inch thick, composed of thin, papery, purple easily detached scales, underneath the scales the bark is a clear bright rose or purple red. Older twigs slender, bright cinnamon brown. Leaves 2-ranked which appear flattened, dark yellow-green above, paler below (12) 14-18 mm. long, 1-2 mm. broad, abruptly mucronate, persistent about 5-6 years, soft to the touch; midrib stout; petiole yellow about 2 mm. long. Staminate cones yellowish, globose, about 3 mm. long. Ovules solitary, terminal, borne on a circular disk which becomes the aril in fruit on the lower side of short axillary branches. Fruit (aril) berry-like and fleshy, bright coral red, ovoid, about 1 cm. in diameter, enclosing a single seed; maturing in September and falling in October. Seeds 2-4 angled and 5-6 mm. long.

DISTRIBUTION: From extreme southern coastal Alaska and British Columbia east to Selkirk Mountains, south through Washington, Oregon, northern and western Idaho, northwestern Montana to Marin and Calaveras Counties, California.

ALASKA: Known on a few islands near Ketchikan: Annette, Dog, Cat, Mary, Bold, and Gravina. Also southern end of Prince of Wales Island north to Kasaan Island in Kasaan Bay and South Tongass National Forest.

BRITISH COLUMBIA:

Queen Charlotte Islands: Confined to borders of inlets; on Cumshewa Inlet from Clew to head of West Arm, on shores of Prevost Island and south of Moresby Island, Skidegate Inlet and near Massett.

DISTRIBUTION Continued:

Vancouver Island: Common near the coast, noted from sea level to 900 ft. on southwest end in Renfrew District and near Victoria.

Mainland: Lower Skeena River, Fraser River to Chapmans Bar near Suspension Bridge, Coquihalla River 20 miles above Hope. Farther east on both sides of Selkirk Range north to Beaver Creek at 3,500 to 4,000 ft. - on Kootenai Lake and west of it between Sproats Landing and Nelson.

WASHINGTON:

Washington National Forest & Park: West - generally below 3,000 feet. East - on Stehekin River, in Horseshoe Basin, at Nason City (Chelan County), and on some mountainous passes from 3,300 to 5,000 ft.

Yakima Division Washington, Wenatchee National Forest: Noted in Kittitas Co., up to 6,000 ft.

Mount Rainer National Park & Snoqualmie National Forest: Generally below 4,200 ft. - upper Nisqually River, Mount Rainer between Longmire Springs and Paradise Park, on a summit 8 miles southeast of Mount Rainer at 6,000 ft.

Olympic Peninsula: Common here - Arbutus Point, in Queniult Indian Reservation, Admiralty Inlet at Port Townsend and at Port Ludlow.

Blue Mountains: Occasional along streams near Pullman.

Gifford Pinchot National Forest: T. 38N., R. 44E., Sec. 13.

Kaniksu National Forest: T. 38N., R. 45E., Sec. 26.

OREGON:

Mt. Hood National Forest: Western slopes of Cascades below 2,100 ft., but occasionally reaching 5,900 ft. - noted locally at Portland, Clackamas River Canyon, between Portland & Mt. Hood and south of Mt. Hood on Camas Praire. Common in the Callawash River area.

Willamette National Forest: Beside Salmon Creek on upper tributary of the Willamette River (T. 21S., R. 4E., Sec. 7).

DISTRIBUTION Continued:

Umpqua National Forest: South Umpqua Experimental Forest by Coyote Creek of the Upper South Umpqua River drainage (T. 29S., R. 1E., Sec. 27).

Siuslaw National Forest: Scarce on the east slopes of the Coast Ranges.

Siskiyou & Rogue River National Forests: Common on diorite in the Siskiyou Mountains; locally noted near Sawtooth Mt. (T. 25S., R. 6E.) above 6,000 ft.; Hwy. 62 from Rogue River to Crater Lake; headwaters of Rogue River in Cascades and of Bear Creek in Siskiyou (especially T. 38S., R. 4E.); abundant in the Lake of the Woods (trees 1-2 inches in diameter); common around Fish Lake (trees usually 6 inches in diameter).

Umatilla National Forest: Above the breaks of the Wenaha River Canyon (T. 6N., R. 42E., Sec. 31).

CALIFORNIA:KLAMATH MOUNTAINS REGION:

Del Norte County: Six Rivers National Forest - about 20 miles east of the Pacific Ocean and 2 miles south of the Oregon Border (T. 18N., R. 3E., Sec. 15).

Humboldt County: Six Rivers National Forest - west slopes of Trinity Mts. above Hoopa Valley (about 6 miles east of Hoopa); west of Hoopa on trail to Redwood Creek; occasional in canyons of Mts. between Berry Summit and Willow Creek; between Redwood Creek and Blue Lake.

Siskiyou County: Marble Mountains Wilderness area; Salmon-Trinity Alps Wilderness area.

Trinity County: Between Lewiston and Whisketown at 2,000 ft. (canyon east); Canyon Creek from Dedrick to Alpine Lakes (5,600 ft.); in gulches of Carl, Salt and Dutch Creek between Junction City and Hay Fork; in canyons of South Fork Van Duzen River and Little Van Duzen River.

CASCADES AND SIERRA NEVADA:

Shasta County: Eastern limits at the headwaters of Sacramento River; McCloud River above Baird from 3,000-6,000 ft.

Lassen County: Lassen Peak area.

DISTRIBUTION Continued:

Plumas County: Plumas and Lake Tahoe National Forests - occasional in yellow pine belt of central plateau region and wet canyons of west side of main range.

Placer County: Just south of North Fork American River and east of Iowa Hill; a few miles east of Forest Hill; in Devil's Canyon between Forest Hill and Colfax. In Stanislaus National Forest, occasional in red fir belt - vicinity of Mutton Canyon and Deep Canyon (branches of Pilot Creek - a tributary of Rubicon River) at 4,000 ft.; Big Iowa Canyon (tributary of South Fork American River) at 3,000 ft.; headwaters of Sly Park Creek (tributary of North Fork of Cosumnes River); North Fork of Webber Creek at 4,000 ft.; headwaters of Crater Creek from 2,500-3,000 ft.; at 3,500 ft. along Clear Creek (tributary of Webber Creek); headwaters of Mill Creek (tributary of North Fork of Mokelumne River) from 3,500-4,000 ft.

Calaveras County: Marks the southern limits of T. brevifolia - Calaveras Big Tree State Park, North Grove at 4,800 ft.

COAST RANGES:

Humboldt County: A few miles from Briceland.

Mendocino County: Seaward side of Coast Ranges in redwood forest for 10 miles east of Westport and at a point 10 or 12 miles east of Mendocino (marking the western limits); near Cahto, Laytonville and Willits; a few miles north of Ridgewood Summit (between Willits and Ukiah).

Colusa County: On Snow Mountain and in Deep Canyon on Elk Mountain.

Lake County: On Sanhedrin Mountain and east side of Mount St. Helen in canyon between Tollhouse and Middletown.

IDAHO:

Coeur d'Alene National Forest: T. 51N., R. 8W., Sec. 25 - elevation 3,800 ft. on north slope near stream.

St. Joe National Forest: T. 38N., R. 3E., Sec. 5 - extensive bench area at 3,300 ft.

DISTRIBUTION Continued:

Clear Water National Forest: Plants scattered along creeks - Hidden Creek (T. 41N., R. 10E., Sec. 2 & 4); Fix Creek (T. 40N., R. 10E., Sec. 5, 8 & 9); Comet Creek (T. 40N., R. 10E., Sec. 10, 15); Elizabeth Creek (T. 40N., R. 10E., Sec. 17, 18 & 20); Coyote Creek (T. 41N., R. 11E., Sec. 32); Monroe Creek (T. 38N., R. 10E., Sec. 13).

MONTANA:

Northwestern Montana near Glacier National Park - A major understory tree on northern slopes, but trees not over 8 ft. tall (Coram Experimental Forest - 48°22'N, 114°00' W.).

ECOLOGY: Near margins of low mountain streams, moist flats and benches, deep ravines, in rich rocky or gravelly soils. Mostly found in the western hemlock and Douglas fir forests, particularly along the western slopes of the Cascades in Washington and Oregon. Also reported in the mixed conifer forest (= yellow pine forest), mixed evergreen forest, redwood forest and red fir forests. Occurring at elevations from near sea level to 7,000 ft.

Exceedingly tolerant of dense shade where the crown foliage is observed as being thin with the branches extending to the ground.

Trees are usually scattered at intervals of 300 or more feet apart, but known to occur in small clumps.

Fruits mature in September and fall in October.

COMMENTS, USES AND OTHER PERTINENT INFORMATION:Distribution:

Taxus brevifolia has been reported to occur further south in California - Tulare County in the Sierra Nevada and Monterey County in the Coast Ranges. These southern occurrences have been attributed to mistaken identifications which T. brevifolia is thought to have been confused with another species in the Taxaceae - Torreya californica. Also, the earlier mentioned occurrence of T. brevifolia in the redwood forest (Coast Ranges - Mendocino County) might similarly be questioned as possibly being Torreya californica. Currently, the southern range of T. brevifolia in the Coast Ranges is believed to be in Marin and Lake Counties. Torreya californica is active and is endemic to California.

COMMENTS, USES AND OTHER PERTINENT INFORMATION Continued:Abundance:

Taxus brevifolia has been cited as common on the Olympic Peninsula and nearby Vancouver Island. Vegetation studies also suggest that T. brevifolia is common along the western slopes of the Cascades in associations of Pseudotsuga (Douglas fir)/Holodiscus and Tsuga (Western Hemlock)/Berberis. These studies were conducted by the U.S. Forest Service along the 45° latitude. A Xerox copy of their "Table 8" is attached. Whittaker (1960) has cited Taxus brevifolia as one of several characteristic species found on diorite in the Siskiyou Mountains, Oregon.

Edson has recently surveyed (July, 1977) an area in the Rogue National Forest, southern Oregon. He reports T. brevifolia as being common over an area of 12 square miles. The location centers between Howard Prairie and Fish Lake which is about 20 miles east of Ashland along Hwy. 66 and north along a U.S. Forest service road, # 3706F, that intersects with Hwy. 140. The trees average 6 inches in diameter (occasional ones are up to 12 inches in diameter) and are spaced about 50 feet apart. This area is also relatively flat which makes collecting more economical. The entire forest was not surveyed and Edson believes that T. brevifolia is probably common over much more than 12 square miles.

Edson also has made extensive inquiries by telephone in Oregon. T. brevifolia is reported to be abundant in the Lake of the Woods, but the trees here are only 1-2 inches in diameter; common in the Callawash River Area; fair abundance near Sweethome Ranger Station and scarce in the Coast Ranges.

Spjut has observed T. brevifolia near Willow Creek in Humboldt County, California. Trees were very scattered and less than 20 feet tall, but with a diameter of about 6 inches.

A memorandum from Raymond Shearer, a silviculturist in Missoula, Montana, described T. brevifolia as a major understory tree on northernly slopes in northwestern Montana. However, the trees seldom attained a height over 6 to 8 feet.

Variation in size:

As mentioned in previous sections, the size of the tree varies considerably. The largest tree is reported to be 75 feet tall with a diameter between 4 and 5 feet and was recorded in the foothills near the source of the Tualatin River (Oregon). This tree is the "mother of a numerous family" scattered over several

COMMENTS, USES AND OTHER PERTINENT INFORMATION Continued:

acres. Larger trees are generally associated with lower elevations along the western slopes of the Cascades.

USES: T. brevifolia is not regarded to have commercial value. However, the U.S. Forest Service issues permits to local ranchers to selectively cut Taxus brevifolia for use as fence posts. The wood is valued for its durability and strength. From telephone conversations with Edson and Bill Schreck (U.S. Timber Management Specialist in Oregon), a district issues 1-2 permits a week during the summer at \$.20 per tree. Bill Schreck mentioned that four districts in the Ashland area are currently issuing such permits.

Edson mentioned that trees of T. brevifolia are cut for firewood and sold at \$60.00/cord.

The Indians have used the wood for paddles, spear handles, bows, fish-hooks and other small articles.

OTHER: The bark is easily removable during the spring and summer months when the sap is running.

The bark and leaves are regarded as poisonous.

The plants are stated to be fairly prolific seeders. Vitality of the seeds are persistent and germination is moderately high. Also, the fruits and seeds are stated to be nonpoisonous.

Rarely observed in cultivation.

REFERENCES: Literature:

- Abrams, L., 1940. Illustrated Flora of the Pacific States I. Stanford Univ. Press, Calif.; p. 51.
- Chittenden, F.J., 1965. Dictionary of Gardening. Vol. 4, Oxford; p. 2084.
- Eliot, W.A., 1938. Forest Trees of the Pacific Coast. Putman, N.Y.; pp. 268-274.
- Franklin, J.F., 1969. Vegetation of Oregon and Washington. USDA, Forest Research Paper, PB-185048; pp. 55-61, 92-98, 134-135.
- Frenkel, R.E., 1970. Ruderal Vegetation Along Some Roadsides. Univ. of Calif. Press (T. brevifolia not cited).
- Hitchcock, C.L., A. Cronquist, M. Ownbey & J. W. Thompson, 1969. Vascular Plants of the Pacific Northwest I. Univ. of Wash. Press, Seattle; p. 103.
- Hulten, E., 1968. Flora of Alaska and Neighboring Territories, p. 59.
- Kingsbury, J.M., 1964. Poisonous Plants of the United States and Canada. Prentice Hall, Englewood Cliffs, New Jersey; pp. 121-123.
- Little, Jr., E.L., 1953. Check List of Native and Naturalized Trees of the United States. USDA Handbook, No. 41; p. 414.
- Munz, P.A. & D.D. Keck, 1959. A California Flora. Univ. of Calif. Press; p. 65.
- Rundel, P.W., 1968. Notes & News: The Southern Limits of Taxus brevifolia in the Sierra Nevada, California. Madrono 19(8): 300.
- Sargent, C.E., 1896. Silva of North America X. pp. 65, 66.
- Sudworth, G.B., 1908. Forest Trees of the Pacific Slope. USDA, Wash. Printing Office; pp. 190-197.
- Thomas, J.H., 1961. Flora of the Santa Cruz Mountains. Stanford Univ. Press.
- Viereck, L.A. & E.L. Little, Jr., 1972. Alaska Trees and Shrubs. USDA Handbook, #410; pp. 43-44.
- Welsh, S.L., 1974. Anderson's Flora of Alaska and Adjacent Parts of Canada. Brigham Young Univ. Press; p. 38.
- Whittaker, R.H., 1960. Vegetation of the Siskiyou Mountains, Oregon and California. Ecol. Monogr. 30: 279-338 (cf. pp. 282, 315).

REFERENCES: Other:

- Edson, Charles. Plant Supplier. Personal communication concerning Edson's field work and contacts during the summer of 1976 and July 1977; Corvallis, Oregon (Tel. (503) 753-8697).
- Shearer, Raymond C., 1966. USDA memorandum to Robert E. Perdue, Jr.; "Timber Management Research (Procurement of Samples of Taxus brevifolia Bark)", dated November 3, Missoula, Montana.
- Schreck, Bill. Timber Management Specialist at Ashland, Oregon. Personal communication on July 14, 1977 (Tel. (503) 482-3333).
- Spjut, Roger. Personal communication concerning his survey of the Clearwater National Forest, Idaho during the fall of 1976. Pullman, Washington.

PREPARED BY: Richard W. Spjut DATE: July 14, 1977

Table 8. — Abundance of selected species in three associations found in the *Tsuga heterophylla* Zone of the western Oregon Cascade Range

Species	Association		
	<i>Pseudotsuga</i> <i>/Holodiscus</i>	<i>Tsuga</i> / <i>Berberis</i>	<i>Tsuga</i> / <i>Polystichum</i>
<u>Trees</u>			
<i>Pseudotsuga menziesii</i>	Abundant	Common	Occasional
<i>Tsuga heterophylla</i>	Rare	Common	Common
<i>Thuja plicata</i>	—	Occasional	Common
<i>Acer macrophyllum</i>	Occasional	—	Rare
<i>Libocedrus decurrens</i>	Occasional	—	—
<i>Pinus lambertiana</i>	Occasional	—	—
<i>Arbutus menziesii</i>	Rare	—	—
<i>Taxus brevifolia</i>	Common	Common	Occasional
<u>Shrubs</u>			
<i>Acer circinatum</i>	Common	Common	Occasional
<i>Holodiscus discolor</i>	Common	—	—
<i>Gaultheria shallon</i>	Abundant	Occasional	Rare
<i>Corylus cornuta californica</i>	Common	—	Rare
<i>Vaccinium parvifolium</i>	Common	Common	Common
<i>Rhododendron macrophyllum</i>	Rare	Common	Rare
<i>Symphoricarpos mollis</i>	Common	Rare	Rare
<i>Berberis nervosa</i>	Common	Common	Common
<i>Rubus ursinus</i>	Common	Common	Common
<u>Herbs</u>			
<i>Linnaea borealis</i>	Common	Common	Occasional
<i>Whipplea modesta</i>	Common	Rare	—
<i>Synthyris reniformis</i>	Common	Rare	—
<i>Polystichum munitum</i>	Rare	Occasional	Abundant
<i>Coptis laciniata</i>	Rare	Common	Occasional
<i>Viola sempervirens</i>	Occasional	Common	Occasional
<i>Vancouveria hexandra</i>	Rare	Rare	Common
<i>Tiarella trifoliata</i>	—	Rare	Common
<i>Disporum smithii</i>	—	—	Occasional
<i>Trillium ovatum</i>	Occasional	Occasional	Occasional
<i>Hieracium albiflorum</i>	Common	Rare	—
<i>Galium triflorum</i>	—	Occasional	Common
<i>Oxalis oregana</i>	—	Rare	Common
<i>Struthiopteris spicant</i>	—	—	Occasional
<i>Asarum caudatum</i>	—	—	Occasional
<i>Festuca occidentalis</i>	Common	—	—
<i>Iris tenax</i>	Common	—	—
<u>Mosses, Liverworts and Lichens</u>			
<i>Eurhynchium oreganum</i>	Occasional	Abundant	Common
<i>Homalothecium megaptilum</i>	Occasional	Occasional	Rare
<i>Hylcomium splendens</i>	Occasional	Rare	Occasional
<i>Rhytidiadelphus loreus</i>	Common	Occasional	Occasional
<i>Rhacomitrium canescens</i>	Occasional	—	—
<i>Mnium insigne</i>	—	—	Common
<i>Peltigera aphthosa</i>	Common	—	—
<i>Dicranum fuscescens</i>	Common	Common	Occasional
<i>Hypnum circinale</i>	Common	Common	Common
<i>Cladonia</i> spp.	Occasional	Rare	—
<i>Scapania</i> spp.	—	Rare	Occasional

Source: Unpublished data on file at Forestry Sciences Laboratory, Pacific Northwest Forest & Range Exp. Sta., Forest Serv., U. S. Dep. Agr., Corvallis, Oregon.



Taxus brevifolia

Areas of common occurrence

40°

35°

PACIFIC OCEAN

CALIFORNIA

CENTRAL CALIFORNIA ISLANDS

Sierra Nevada
Cascades
Coast Range

Sierra Nevada
Cascades
Coast Range

Sierra Nevada
Cascades
Coast Range

Sierra Nevada
Cascades
Coast Range

Sierra Nevada
Cascades
Coast Range

Sierra Nevada
Cascades
Coast Range

Sierra Nevada
Cascades
Coast Range

Sierra Nevada
Cascades
Coast Range

Sierra Nevada
Cascades
Coast Range

Sierra Nevada
Cascades
Coast Range

Sierra Nevada
Cascades
Coast Range

